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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
AUDET, MAURY A	

ART UNIT	PAPER NUMBER
1654	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/515,981	PEARLMAN, RODNEY	
	Examiner	Art Unit	
	Maury Audet	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicants amendment and response of 4/6/07 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The rejection of claims 1-8 under 35 U.S.C. 103(a) as being unpatentable over Serendenin et al. (US 5,439,930), is maintained for the reasons of record. Applicant's arguments have been considered, but are not found persuasive. It is important at this point to substantiate the invention, *as claimed*, as to the required broadest reasonable interpretation of the claim language. *The invention is to a method of treating "a symptom" of MCI, not MCI per se. MCI shares "symptoms"* which are common to other age-related or other cognitive disorders. Namely, "impaired memory function" is a symptom of MCI. It is also a symptom, to some degree of, age-related or other cognitive disorder, as discussed by Serendenin et al. using the same compounds.

Applicant may wish to consider amending those "symptoms" into base claim 1, for which the present invention is enabled, which are specific to MCI, but not overlapping with age-related or other cognitive disorder "symptoms", for which the present compounds have been discussed in the art as capable of use therefor.

The rejection is repeated for continuity of record:

Serendenin et al. (US 5,439,930) teach that the present compounds are known, namely, N-acyl-(Pro-Gly)-prolyldipeptides, including the preferred embodiment in present claim 8, for "improvement of cognitive function damaged by [ ] aging" (col. 3, lines 15-25). Serendenin et al. was issued in 1995, before the label MCI was even created/defined (it is assumed after a review of the art). [Therefore, since the present claims are described as treating a symptom of MCI, the Serendenin et al. reference is applied under 103 as opposed to 102.]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to treat a symptom of MCI, in Seredinin et al., because Seredinin et al. advantageously teach that the present compounds are known, namely, N-acyl-(Pro-Gly)-prolyldipeptides, including the preferred embodiment in present claim 8, for "improvement of cognitive function damaged by [ ] aging" (col. 3, lines 15-25). Serendenin et al.'s description of "improvement of cognitive function damaged by [] aging", at least in theory, partially meets the definition for the newly labeled disorder MCI; namely, age-related loss in cognitive function, since MCI is a later adult onset disorder which is not yet clearly known to not result from aging of cerebral anatomy/physiology.

From the teachings of the reference, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the reference, especially in the absence of evidence to the contrary.

* It was discussed above that: "Seredenin et al.'s description of "improvement of cognitive function damaged by [] aging", at least in theory, partially meets the definition for MCI, namely, age-related loss in cognitive function, since MCI is a later adult onset disorder which is not yet clearly known to not result from aging of cerebral anatomy/physiology. However, it is not clear from the description of Seredinin et al., that the compounds were clearly enabled for treating e.g. MCI and treating a symptom of cognitive impairment." Therefore, in the event Seredenin et al. is not enabled for such, a 112 1st rejection under Enablement, has been made.

Provisional Obvious-Type Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

The rejection of claim 1 as provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2 of copending

Application No. 11/136,272, is maintained for the reasons of record. Applicant has provided no arguments (nor concessions) thereto, other than a terminal disclaimer will be filed upon the finding of allowable subject matter. Although the conflicting claims are not identical, they are not patentably distinct from each other because '272 claim a method of treating a cognitive decline using the same compounds, and MCI is defined as "cognitive decline" Thus, absent the label, MCI, the same disorder is being treated, and thus rendered obvious.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112 1st Enablement

The rejection of claims 1-2, 4, and 8 (in part) and 3 and 5-7 (in total) and claims under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement, is maintained. Namely, as to claims 1-2, 4, and 8, in part, as to treating "any" MCI-associated symptom with the compounds of formula I. As to claims 3 and 5-7, in total, as the ability of the compounds of formula I to treat the progression from MCI to AD (including by at least 10, 20, or 50%). Applicant's arguments have been considered but are not found persuasive. Applicant sites later references as reliance for enabling his own specification, yet without amending the claims to even those "symptoms" of MCI which Applicant asserts the art has shown to work (which are not specifically identified by Applicant on page 9, 2nd full para. – only generalizations for treating this or that associated with MCI). It is maintained, that Applicant has not provided credible evidence to enable "his specification", at the time of filing, either via the specification or the references provided, as to the use of the compounds of formula I to treat "any symptom" of

MCI, or even to some degree, the progression of MCI to AD. The 11-page specification is hypothetical. There are no tests, drawings, or figures to which studies have been conducted in animals or otherwise, which provide any reliance upon which the Office may pass judgment upon whether Applicant's invention is in fact enabled. Furthermore, even the "effective amounts" for "any symptom" are hypothetical, as shown briefly on page 8 (none claimed) – with no "symptom" association example as to what an "effective amount" thereto constitutes. The Office is not equipped nor does it have the resources to test via laboratory means, whether inventions, like the present one, are enabled for that to which they are so claimed, in order to show that such in fact is operable. The rejection is maintained as outlined above.

The rejection is repeated for continuity of record, as applicable to the above claims:

The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Namely, Applicant is not enabled for treating a symptom of MCI (mild cognitive impairment) using the known N-acyl-(Pro-Gly)-prolyldipeptides described in Serendenin et al. (US 5,439,930).

> The first paragraph of 35 U.S.C. 112 states, "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same...". The courts have interpreted this to mean that the specification must enable one skilled in the art to make and use the invention without undue experimentation. The courts have further interpreted undue experimentation as requiring "ingenuity beyond that to be expected of one of ordinary skill in the art" (Fields v. Conover, 170 USPQ 276 (CCPA 1971)) or requiring an extended period of experimentation in the absence of sufficient direction or guidance (In re Colianni, 195 USPQ 150 (CCPA 1977)). Additionally, the courts have determined that "... where a statement is, on its face, contrary to generally accepted scientific principles", a rejection for failure to teach how to make and/or use is

proper (In re Marzocchi, 169 USPQ 367 (CCPA 1971). Factors to be considered in determining whether a disclosure meets the enablement requirement of 35 U.S.C. 112, first paragraph, have been described in In re Colianni, 195 USPQ 150, 153 (CCPA 1977), have been clarified by the Board of Patent Appeals and Interferences in Ex parte Forman, 230 USPQ 546 (BPAI 1986), and are summarized in In re Wands (858 F2d 731, 737, 8 USPQ2d 1400, 1404 (Fed Cir. 1988). Among the factors are the nature of the invention, the state of the prior art, the predictability or lack thereof in the art, the amount of direction or guidance present, the presence or absence of working examples, the breadth of the claims, and the quantity of experimentation needed.

The instant disclosure fails to meet the enablement requirement for the invention described above.

The nature of the invention: The invention is described at the outset.

The state of the prior art and the predictability or lack thereof in the art:

Applicant's specification, describes at the outset two references, which are used as the basis for enablement of the present invention and description of what MCI is. However, neither reference describes that MCI and it's symptoms are completely defined (though a general understanding of dementia and symptoms thereto and faster onset appears the accepted description of MCI) under the medical model and more importantly, here, that even if a definition and symptomology have risen to the level of recognition by the medical practitioner, that MCI is even capable of treatment.

1. Friedrich (JAMA, 8/18/99, 282 (7), 621-622) describes that MCI raises Alzheimer disease risk (e.g. the slow onset of cognitive impairment, more pronounced in some than others, leads ultimately to Alzheimer's) but that "[i]nvestigators are currently attempting to identify treatments that can be administered to persons with MCI", and that trials are under way for Vitamin E and donepezil hydrochloride, as potential agents (last column).

2. Petersen (Arch. Neurol., 58(12), 1985-92, Dec. 2001) describes researchers trying to focus on early stages of Alzheimer's, one subset population which includes those who advance to the disease faster under the label MCI, but that "no treatments are recommended for MCI currently, clinical trials regarding potential therapies are under way" (abstract).

Lastly thought, Seredenin et al. (US 5,439,930) does teach that the present compounds are known, namely, N-acyl-(Pro-Gly)-prolyldipeptides, including the preferred embodiment in present claim 8, for "improvement of cognitive function damaged by [ ] aging" (col. 3, lines 15-25). Serendenin et al. was issued in 1995, before the label MCI was even created/defined (it is assumed after a review of the art). Seredenin et al.'s description of "improvement of cognitive function damaged by [] aging", at least in theory, partially meets the definition for MCI, namely, age-related loss in cognitive function, since MCI is a later adult onset disorder which is not yet clearly known to not result from aging of cerebral anatomy/physiology. However, it is not clear from the description of Seredinin et al., that the compounds were clearly enabled for treating e.g. MCI and treating a symptom of cognitive impairment.

The amount of direction or guidance present and the presence or absence of working examples: Enablement must be provided by the specification unless it is well known in the art. *In re Buchner* 18 USPQ 2d 1331 (Fed. Cir. 1991). The specification describes no tests/examples/data N-acyl-(Pro-Gly)-prolyldipeptides are capable of treating MCI or any other form of dementia. See e.g. Example 1, "[t]o determine if a compound of Formula I is effective for treating a symptom of MCI, a Phase I clinical study in normal volunteers *can be conducted*". Thus, the specification is purely hypothetical/theoretical, for this yet to be firmly defined disorder called MCI and the specific symptoms associated therewith.

The breadth of the claims and the quantity of experimentation needed: The claims are drawn to use of a few modified, known N-acyl-(Pro-Gly)-prolyldipeptides, for treating a symptom of MCI (mild cognitive impairment). With the substantial uncertainty of what MCI is, a firm definition thereof, and what therapies (if any) may be able to even target this faster onset to dementia/Alzheimer's disorder, Applicant does not appear to be enabled for the present invention. Absent sufficient teachings in the specification or art sufficient to overcome the teachings of unpredictability in the art as to enablement of the invention, or similar dipeptides, it is not clear whether the compounds are enabled for treating a symptom of MCI (mild cognitive impairment).

*It was discussed above that: "Seredenin et al.'s description of "improvement of cognitive function damaged by [] aging", at least in theory, partially meets the definition for MCI, namely, age-related loss in cognitive function, since MCI is a later adult onset disorder which is not yet clearly known to not result from aging of cerebral anatomy/physiology. However, it is not clear from the description of Seredinin et al., that the compounds were clearly enabled for treating e.g. MCI and treating a symptom of cognitive impairment." Notwithstanding the issue of enablement of Seredinin et al., the reference is applied has been applied in the 103 rejection, in the event the present application is shown to be enabled, because the present application appears to give no more basis for enablement for treating a symptom of cognitive impairment (e.g. MCI) than Seredinin et al., and should enablement be shown in the present application, Seredinin et al., would be also be deemed to be enabled, absent evidence to the contrary, and thus teach the

treatment of a symptom of cognitive impairment, which would include advancement thereof to AD.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maury Audet whose telephone number is 571-272-0960. The examiner can normally be reached on M-Th. 7AM-5:30PM (10 Hrs.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MA, 06/23/2007

CHRISTOPHER R. TATE
PRIMARY EXAMINER